

Glass netus.

April 18-19

1964

985

April 18

(54)

BW 4 25-28 Leonard & Hess
unconf. King loc 104.

In the ravine there is one
continuous interval about 53'
of shale from igneous contact to
base of conglomerate. Shale $N83^{\circ}W$
 $3^{\circ}N$.

Is opposite King 104 to igneous
dike or fault is distinct

731C - fusulinids near top of
figure 8-shaped hill at W
end of Hess Ranch Horst.

731A - fusulinids between fault
and top of elliptical knob.

731d - About 20' below cgl.
in Neal Ranch shale, west
of fault at head of Valley

BW 4 - to end Hess Horst, E
end at fault.

BW 5 - 0-6 same views of
narrow hill at east end of Horst
of *Succinella* at 720e

C 7-12 - same as BW 5

(55)

Examined east end of Horst Basal cgl. of Thorpe Hills is in contact with Neal Ranch shale at N end of valley in which igneous body exists. The shale occupies an elevation of 1 contour = 50' on west side valley but igneous body is in contact with cgl. at fault. The fault runs down west side of elliptical hill with a zone about 20' wide. A large baked zone is evident and the igneous body is in contact with the shale on the west side but tapers up to the cgl. on the east. The elliptical hill is composed mostly of Hess limestone tipped up 50-60°. On the NE slope 80' above the road is a patch of biohermal limestone with *Crinoidella*, probably overlying the Hess unconformably as it does at King loc 1104. No *Crinoidella* was seen in the middle part of the elliptical hill but it appears on the south side (loc 724t) and extends some distance to the south.

April 19

987

(56)

as at 7242 (check)

In afternoon examined locality 720E and went to see Royal Canyon at 726C and others.

April 19

730E W side Dugout Mtn.

5'
6'
15' 730f
5' covered
E 12" lo
D 5' covered
C 3'
B 2' covered or thin
A 9'
730E

A.- Thick bedded sandy limestone with hard silicious brown skins on top. Sponges abundant. Rock dark gray, finely granular. Small productids (*Elliottella*?) and mostly fragmentary specimens of bryozoa scattered on surfaces. Sponges very abundant on surfaces.

G- Thinner bedded same rock in layers 6"-1" mostly the former

This sequence is in the upper part of Leonard #3

(57)

730g

Leonard #4 - Thick bedded dark gray sandy limes some with siliceous surfaces often covered with sponges and fragments of fossils. Layer is about 5' thick of 2 or three layers overlain by cherty beds and sandstone and fine bedded ss. Ammonites common but hard to get. Sponges very abundant. 730h - is a limy bed 50' above Leonard #4.

730j

Leonard ls #4 - Poorly exposed on surface of hill - consists of thin bedded sandy ls. & calcinidite with beds of shell breccia with few recognizable fossils. Dark gray sandy limestone with ammonites like those below. Tom says about 15'. Many sponges in places. Small pebbles. Rock is sandy, fossils mostly badly broken.

(58)

Biherms in hill 4801
 20' of limestone on top of
 big Biherms under 4801.
 A - 1' yellow siliceous shale
 A - lower 10' of dark gray cherty
 ls. with occasional goniatites
 B - 3 or 4 feet biherms fr.
 C - 6 or 7' of calcarenite with 2"
 siliceous skin on top.

730K - Ammonites from 5' above
 large biherms in hill 4801.

730-2 - Fusulinids from between
 biherms, hill 4801, Decie
 Ranch.

BW5 - to 13 Dugout Mtn and
 hill 4801

C7 - to 29 same

Leonard #4 is lithologically
 and faunally like the Leonard
 #2 & 3 limestones. Also have the
 same goniatites out of
 dark gray blocky limestones
 in limestone #1 in hill
 4801 of the Lenox Hills. This
 suggests that from the
 Sedgwickella beds up we
 have essentially the
 same fauna. I do not
 have good brachiopod

(59)

collections from these beds but in all the collecting done did not turn up *Crustatella* or the characteristic higher Leonard species.

The bed #5 has calcinulites or shell breccias like those below but we saw no goniatite beds like those below and it is quite easy to locate *Crustatella* or other early Cathedral Mtn. types.

In afternoon visited biherms in hill 4801 where I collected goniatites, same assemblage as in limestones #2, 3, 4. If it were not for the biherms near the top of the 20' above the big biherm I would think it possible that these beds represent the three ls. thinned down and with intervening shale pinched out. This is a possible explanation but the whole sequence seems to belong to limestone #1.

49
 2 1/2

 22
 88

 110

55/38 9
 30 50
 355-
 35 35